

WORKING DRAFT

General

Name

Lakeland Tyvek® QC Level B Hood

Item # 46



Technology

Selectively permeable

Stock Number

70710

Protection Type

Percutaneous

Equipment Category

Hood, bell shape, and elastic face pullover

Availability

4 wk to 5 wk ARO

Current User(s)

Government organizations, municipal HazMat teams, fire departments, international HazMat/military organizations, and industry

Manufacturer

Lakeland Industries, Inc.
202 Pride Lane, SW
Decatur, AL 35602
POC: Carl Brown (Technical Product Specialist)
POC: Steve McCully (Product Manager)
800-645-9291 (Tel)
256-350-3011 (Fax)
Internet: www.lakeland.com
Domestic

Manufacturer Type

Developer

Lakeland Industries

Source

www.lakeland.com

Certification

Not applicable

Operational Parameters

Chemical Warfare (CW)

Not tested

Agents Protected Against

Biological Warfare (BW)

Not specified

Agents Protected Against

Toxic Industrial (TIMs)

Many inorganic acids, bases, and other liquid chemicals such as pesticides. Questions call Lakeland Customer Service at 800-645-9291.

Protected Against

Duration of Protection

For specific TIMs data, contact Lakeland Customer Service at 800-645-9291

Recommended Use(s)

Tactical operations, HazMat teams, chemical/biological testing, training, and warfare environments

Physical Parameters

Sizes Available

1 size

Weight

6 lb per case, 12 in a case

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Package Size and Volume	Not specified
Power Requirements	None
Material Type	Garment is selectively permeable
Construction Type	Sealed seam
Color	Yellow or Grey

Logistical Parameters

Ease of Use	Garment poses no major mobility of flexibility problems from wearer compared to other Level B CPC
Consumables	None
Maintenance Requirements	Not specified
Shelf Life	After 5 yr, recommended to use only for training
Transportability	No support equipment required for transportation
Operational Limitations	Off the shelf cooling systems are available. Operational limitations to be decided by safety manager.
Environmental Conditions	Designed to be worn in common outdoor conditions
Unit Cost	Cost to be determined by distributors
Maintenance Cost	Not applicable
Warranty	90 d
Don/Doff Information	Not specified
Use/Reuse	Limited use
Laundryability	Suits are not launderable
Accessories	None

Special Requirements

Training Requirements	None
Training Available	Available through regional sales representation
Manuals Available	User Manual and Permeation Guide available
Surveillance Testing Requirements	Visually inspect prior to use for holes or tears
Support Equipment	None
Testing Information	Not specified
Applicable Regulations	None
Health Hazards	None
Communications Interface Capability	Option is available
EOD Compatibility	Yes

WORKING DRAFT

General

Name

Lakeland Tyvek® QC Level B Sleeves

Item # 47



Technology

Selectively permeable

Stock Number

70765

Protection Type

Percutaneous

Equipment Category

Sleeves (18 in length, elastic ends)

Availability

4 wk to 5 wk ARO

Current User(s)

Government organizations, municipal HazMat teams, fire departments, international HazMat/military organizations, and industry

Manufacturer

Lakeland Industries, Inc.
202 Pride Lane, SW
Decatur, AL 35602
POC: Carl Brown (Technical Product Specialist)
POC: Steve McCully (Product Manager)
800-645-9291 (Tel)
256-350-3011 (Fax)
Internet: www.lakeland.com

Manufacturer Type

Domestic

Developer

Lakeland Industries

Source

www.lakeland.com

Certification

Not applicable

Operational Parameters

Chemical Warfare (CW)

Not tested

Agents Protected Against

Biological Warfare (BW)

Not specified

Agents Protected Against

Toxic Industrial (TIMs)

Protected Against

Duration of Protection

Many inorganic acids, bases, and other liquid chemicals such as pesticides. Questions call Lakeland Customer Service at 800-645-9291.
For specific TIMs data, contact Lakeland Customer Service at 800-645-9291

Recommended Use(s)

Tactical operations, HazMat teams, chemical/biological testing, training, and warfare environments

Physical Parameters

Sizes Available

18 in length

Weight

6 lb per case, 12 in a case

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Package Size and Volume	Not specified
Power Requirements	None
Material Type	Garment is selectively permeable
Construction Type	Sealed seam
Color	Yellow or grey

Logistical Parameters

Ease of Use	Garment poses no major mobility of flexibility problems from wearer compared to other Level B CPC
Consumables	None
Maintenance Requirements	Not specified
Shelf Life	After 5 yr, recommended to use only for training
Transportability	No support equipment required for transportation
Operational Limitations	Off the shelf cooling systems are available. Operational limitations to be decided by safety manager.
Environmental Conditions	Designed to be worn in common outdoor conditions
Unit Cost	Cost to be determined by distributors
Maintenance Cost	Not applicable
Warranty	90 d
Don/Doff Information	Not specified
Use/Reuse	Limited use
Launderability	Suits are not launderable
Accessories	None

Special Requirements

Training Requirements	None
Training Available	Available through regional sales representation
Manuals Available	User Manual and Permeation Guide available
Surveillance Testing Requirements	Visually inspect prior to use for holes or tears
Support Equipment	None
Testing Information	Not specified
Applicable Regulations	None
Health Hazards	None
Communications Interface Capability	Option is available
EOD Compatibility	Yes

WORKING DRAFT

General

Name

Lakeland Tychem® SL Level B Hood

Item # 48



Technology

Selectively permeable

Stock Number

72710

Protection Type

Percutaneous

Equipment Category

Hood, pullover, bell shape, and elastic face

Availability

4 wk to 5 wk ARO

Current User(s)

Government organizations, municipal HazMat teams, fire departments, international HazMat/military organizations, and industry

Manufacturer

Lakeland Industries, Inc.
202 Pride Lane, SW
Decatur, AL 35602
POC: Carl Brown (Technical Product Specialist)
POC: Steve McCully (Product Manager)
800-645-9291 (Tel)
256-350-3011 (Fax)
Internet: www.lakeland.com

Manufacturer Type

Domestic

Developer

Lakeland Industries

Source

www.lakeland.com

Certification

Not applicable

Operational Parameters

Chemical Warfare (CW)

Nerve agents (GB and VX); blister agents (HD and L). Questions call Lakeland Customer Service at 800-645-9291.

Agents Protected Against

Biological Warfare (BW)

Not specified

Agents Protected Against

Toxic Industrial (TIMs)

A broad range of liquid chemicals. Questions call Lakeland Customer Service at 800-645-9291.

Protected Against

Duration of Protection

Fabric test data: Average breakthrough time

VX: Greater than 12 h at 10 g/m²

GB and L: Greater than 6 h at 10 g/m²

D: Greater than 3 h at 10 g/m²

Questions call Lakeland Customer Service at 800-645-9291

Recommended Use(s)

Tactical operations, HazMat teams, chemical/biological testing, training, and warfare environments

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Physical Parameters

Sizes Available	One size
Weight	6 lb per case, 12 in a case
Package Size and Volume	Not specified
Power Requirements	None
Material Type	Garment is selectively permeable
Construction Type	Seam sewn and the heat-sealed with tape
Color	White

Logistical Parameters

Ease of Use	Garment poses no major mobility of flexibility problems from wearer compared to other Level B CPC
Consumables	None
Maintenance Requirements	Not specified
Shelf Life	After 5 yr, recommended to use only for training
Transportability	No support equipment required for transportation
Operational Limitations	Off the shelf cooling systems are available. Operational limitations to be decided by safety manager.
Environmental Conditions	Designed to be worn in common outdoor conditions
Unit Cost	Cost to be determined by distributors
Maintenance Cost	Not applicable
Warranty	90 d
Don/DoFF Information	Not specified
Use/Reuse	Limited use
Launderability	Suits are not launderable
Accessories	None

Special Requirements

Training Requirements	Not specified
Training Available	Available through regional sales representation
Manuals Available	User Manual and Permeation Guide available
Surveillance Testing Requirements	Visually inspect prior to use for holes or tears
Support Equipment	None
Testing Information	Not specified
Applicable Regulations	None
Health Hazards	None
Communications Interface Capability	Option is available
EOD Compatibility	Yes

WORKING DRAFT

General

Name

Lakeland Tychem® SL Level B Hood

Item # 49



Technology

Selectively permeable

Stock Number

72712

Protection Type

Percutaneous

Equipment Category

Hood, bell shape, 20 mil PVC face shield, and velcro straps under arm

Availability

4 wk to 5 wk ARO

Current User(s)

Government organizations, municipal HazMat teams, fire departments, international HazMat/military organizations, and industry

Manufacturer

Lakeland Industries, Inc.
202 Pride Lane, SW
Decatur, AL 35602
POC: Carl Brown (Technical Product Specialist)
POC: Steve McCully (Product Manager)
800-645-9291 (Tel)
256-350-3011 (Fax)
Internet: www.lakeland.com

Manufacturer Type

Domestic

Developer

Lakeland Industries

Source

www.lakeland.com

Certification

Not applicable

Operational Parameters

Chemical Warfare (CW)

Nerve agents (GB and VX); blister agents (HD and L). Questions call Lakeland Customer Service at 800-645-9291.

Agents Protected Against

Biological Warfare (BW)

Not specified

Agents Protected Against

Toxic Industrial (TIMs)

A broad range of liquid chemicals. Questions call Lakeland Customer Service at 800-645-9291.

Protected Against

Duration of Protection

Fabric test data: Average breakthrough time

VX: Greater than 12 h at 10 g/m²

GB and L: Greater than 6 h at 10 g/m²

D: Greater than 3 h at 10 g/m²

Questions call Lakeland Customer Service at 800-645-9291

Recommended Use(s)

Tactical operations, HazMat teams, chemical/biological testing, training, and warfare environments.

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Physical Parameters

Sizes Available	1 size
Weight	6 lb per case, 6 in a case
Package Size and Volume	Not specified
Power Requirements	None
Material Type	Garment is selectively permeable
Construction Type	Seam sewn and the heat-sealed with tape
Color	White

Logistical Parameters

Ease of Use	Garment poses no major mobility of flexibility problems from wearer compared to other Level B CPC
Consumables	None
Maintenance Requirements	Not specified
Shelf Life	After 5 yr, recommended to use only for training
Transportability	No support equipment required for transportation
Operational Limitations	Off the shelf cooling systems are available. Operational limitations to be decided by safety manager.
Environmental Conditions	Designed to be worn in common outdoor conditions
Unit Cost	Cost to be determined by distributors
Maintenance Cost	Not applicable
Warranty	90 d
Don/DoFF Information	Not specified
Use/Reuse	Limited use
Launderability	Suits are not launderable
Accessories	None

Special Requirements

Training Requirements	Not specified
Training Available	Available through regional sales representation
Manuals Available	User Manual and Permeation Guide available
Surveillance Testing Requirements	Visually inspect prior to use for holes or tears
Support Equipment	None
Testing Information	Not specified
Applicable Regulations	None
Health Hazards	None
Communications Interface Capability	Option is available
EOD Compatibility	Yes

WORKING DRAFT

General

Name

Lakeland Tychem® SL Level B Apron

Item # 50



Technology

Selectively permeable

Stock Number

72735

Protection Type

Percutaneous

Equipment Category

Apron, bib style, knee length, ties at neck, and waist

Availability

4 wk to 5 wk ARO

Current User(s)

Government organizations, municipal HazMat teams, fire departments, international HazMat/military organizations, and industry

Manufacturer

Lakeland Industries, Inc.
202 Pride Lane, SW
Decatur, AL 35602
POC: Carl Brown (Technical Product Specialist)
POC: Steve McCully (Product Manager)
800-645-9291 (Tel)
256-350-3011 (Fax)
Internet: www.lakeland.com
Domestic

Manufacturer Type

Developer

Lakeland Industries

Source

www.lakeland.com

Certification

Not applicable

Operational Parameters

Chemical Warfare (CW)

Nerve agents (GB and VX); blister agents (HD and L). Questions call Lakeland Customer Service at 800-645-9291.

Agents Protected Against

Biological Warfare (BW)

Not specified

Agents Protected Against

Toxic Industrial (TIMs)

A broad range of liquid chemicals. Questions call Lakeland Customer Service at 800-645-9291.

Protected Against

Duration of Protection

Fabric test data: Average breakthrough time

VX: Greater than 12 h at 10 g/m²

GB and L: Greater than 6 h at 10 g/m²

D: Greater than 3 h at 10 g/m²

Questions call Lakeland Customer Service at 800-645-9291

Recommended Use(s)

Tactical operations, HazMat teams, chemical/biological testing, training, and warfare environments

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Physical Parameters

Sizes Available	1 size
Weight	8 lb per case, 12 in a case
Package Size and Volume	Not specified
Power Requirements	None
Material Type	Garment is selectively permeable
Construction Type	Seam sewn and the heat-sealed with tape
Color	White

Logistical Parameters

Ease of Use	Garment poses no major mobility of flexibility problems from wearer compared to other Level B CPC
Consumables	None
Maintenance Requirements	Not specified
Shelf Life	After 5 yr, recommended to use only for training
Transportability	No support equipment required for transportation
Operational Limitations	Off the shelf cooling systems are available. Operational limitations to be decided by safety manager.
Environmental Conditions	Designed to be worn in common outdoor conditions
Unit Cost	Cost to be determined by distributors
Maintenance Cost	Not applicable
Warranty	90 d
Don/Doff Information	Not specified
Use/Reuse	Limited use
Launderability	Suits are not launderable
Accessories	None

Special Requirements

Training Requirements	None
Training Available	Available through regional sales representation
Manuals Available	User Manual and Permeation Guide available
Surveillance Testing Requirements	Visually inspect prior to use for holes or tears
Support Equipment	None
Testing Information	Not specified
Applicable Regulations	None
Health Hazards	None
Communications Interface Capability	Option is available
EOD Compatibility	Yes

WORKING DRAFT

General

Name

Lakeland Tychem® SL Level B Boots

Item # 51



Technology

Selectively permeable

Stock Number

72740

Protection Type

Percutaneous

Equipment Category

Boots (elastic at top)

Availability

4 wk to 5 wk ARO

Current User(s)

Government organizations, municipal HazMat teams, fire departments, international HazMat/military organizations, and industry

Manufacturer

Lakeland Industries, Inc.
202 Pride Lane, SW
Decatur, AL 35602
POC: Carl Brown (Technical Product Specialist)
POC: Steve McCully (Product Manager)
800-645-9291 (Tel)
256-350-3011 (Fax)
Internet: www.lakeland.com

Manufacturer Type

Domestic

Developer

Lakeland Industries

Source

www.lakeland.com

Certification

Not applicable

Operational Parameters

Chemical Warfare (CW)

Nerve agents (GB and VX); blister agents (HD and L). Questions call Lakeland Customer Service at 800-645-9291.

Agents Protected Against

Biological Warfare (BW)

Not specified

Agents Protected Against

Toxic Industrial (TIMs)

A broad range of liquid chemicals. Questions call Lakeland Customer Service at 800-645-9291.

Protected Against

Duration of Protection

Fabric test data: Average breakthrough time

VX: Greater than 12 h at 10 g/m²

GB and L: Greater than 6 h at 10 g/m²

D: Greater than 3 h at 10 g/m²

Questions call Lakeland Customer Service at 800-645-9291

Recommended Use(s)

Tactical operations, HazMat teams, chemical/biological testing, training, and warfare environments

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Physical Parameters

Sizes Available	1 size
Weight	7 lb per case, 12 in a case
Package Size and Volume	Not specified
Power Requirements	None
Material Type	Garment is selectively permeable
Construction Type	Seam sewn and the heat-sealed with tape
Color	White

Logistical Parameters

Ease of Use	Garment poses no major mobility of flexibility problems from wearer compared to other Level B CPC
Consumables	None
Maintenance Requirements	Not specified
Shelf Life	After 5 yr, recommended to use only for training
Transportability	No support equipment required for transportation
Operational Limitations	Off the shelf cooling systems are available. Operational limitations to be decided by safety manager.
Environmental Conditions	Designed to be worn in common outdoor conditions
Unit Cost	Cost to be determined by distributors
Maintenance Cost	Not applicable
Warranty	90 d
Don/Doff Information	Not specified
Use/Reuse	Limited use
Launderability	Suits are not launderable
Accessories	None

Special Requirements

Training Requirements	None
Training Available	Available through regional sales representation
Manuals Available	User Manual and Permeation Guide available
Surveillance Testing Requirements	Visually inspect prior to use for holes or tears
Support Equipment	None
Testing Information	Not specified
Applicable Regulations	None
Health Hazards	None
Communications Interface Capability	Option is available
EOD Compatibility	Yes

WORKING DRAFT

General

Name

Lakeland Tychem® SL Level B Sleeves

Item # 52



Technology

Selectively permeable

Stock Number

72765

Protection Type

Percutaneous

Equipment Category

Sleeves (elastic ends, 18 in length)

Availability

4 wk to 5 wk ARO

Current User(s)

Government organizations, municipal HazMat teams, fire departments, international HazMat/military organizations, and industry

Manufacturer

Lakeland Industries, Inc.
202 Pride Lane, SW
Decatur, AL 35602
POC: Carl Brown (Technical Product Specialist)
POC: Steve McCully (Product Manager)
800-645-9291 (Tel)
256-350-3011 (Fax)
Internet: www.lakeland.com

Manufacturer Type

Domestic

Developer

Lakeland Industries

Source

www.lakeland.com

Certification

Not applicable

Operational Parameters

Chemical Warfare (CW)

Nerve agents (GB and VX); blister agents (HD and L). Questions call Lakeland Customer Service at 800-645-9291.

Agents Protected Against

Biological Warfare (BW)

Not specified

Agents Protected Against

Toxic Industrial (TIMs)

A broad range of liquid chemicals. Questions call Lakeland Customer Service at 800-645-9291.

Protected Against

Duration of Protection

Fabric test data: Average breakthrough time

VX: Greater than 12 h at 10 g/m²

GB and L: Greater than 6 h at 10 g/m²

D: Greater than 3 h at 10 g/m²

Questions call Lakeland Customer Service at 800-645-9291

Recommended Use(s)

Tactical operations, HazMat teams, chemical/biological testing, training, and warfare environments

WORKING DRAFT

Physical Parameters

Sizes Available	18 in length
Weight	6 lb per case, 12 in a case
Package Size and Volume	Not specified
Power Requirements	None
Material Type	Garment is selectively permeable
Construction Type	Seam sewn and the heat-sealed with tape
Color	White

Logistical Parameters

Ease of Use	Garment poses no major mobility of flexibility problems from wearer compared to other Level B CPC
Consumables	None
Maintenance Requirements	Not specified
Shelf Life	After 5 yr, recommended to use only for training
Transportability	No support equipment required for transportation
Operational Limitations	Off the shelf cooling systems are available. Operational limitations to be decided by safety manager.
Environmental Conditions	Designed to be worn in common outdoor conditions
Unit Cost	Cost to be determined by distributors
Maintenance Cost	Not applicable
Warranty	90 d
Don/Doff Information	Not specified
Use/Reuse	Limited use
Launderability	Suits are not launderable
Accessories	None

Special Requirements

Training Requirements	None
Training Available	Available through regional sales representation
Manuals Available	User Manual and Permeation Guide available
Surveillance Testing Requirements	Visually inspect prior to use for holes or tears
Support Equipment	None
Testing Information	Not specified
Applicable Regulations	None
Health Hazards	None
Communications Interface Capability	Option is available
EOD Compatibility	Yes

WORKING DRAFT

General

Name

Lakeland Tychem® 9400 Level B Jacket/Pants

Item # 53



Technology

Selectively permeable

Stock Number

94250—jacket

94300—pants

Protection Type

Percutaneous

Equipment Category

Jacket/pants; jacket with collar, elastic wrists, zipper closure with storm flaps; pants with elastic waist, and hemmed cuffs

Availability

4 wk to 5 wk ARO

Current User(s)

Government organizations, municipal HazMat teams, fire departments, international HazMat/military organizations, and industry

Manufacturer

Lakeland Industries, Inc.

202 Pride Lane, SW

Decatur, AL 35602

POC: Carl Brown (Technical Product Specialist)

POC: Steve McCully (Product Manager)

800-645-9291 (Tel)

256-350-3011 (Fax)

Internet: www.lakeland.com

Manufacturer Type

Domestic

Developer

Lakeland Industries

Source

www.lakeland.com

Certification

Not applicable

Operational Parameters

Chemical Warfare (CW)

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L)

Agents Protected Against

Biological Warfare (BW)

Not specified

Agents Protected Against

Toxic Industrial (TIMs)

A broad range of TIMs. Contact Lakeland for further information.

Protected Against

Duration of Protection

Breakthrough time at minimum of 8 h, except ammonia at 45 min, dichloromethane at 391 min, and methanol at 150 min

Recommended Use(s)

Tactical operations, HazMat teams, chemical/biological testing, training, and warfare environments

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Physical Parameters

Sizes Available	S through 5X
Weight	94250—8 lb per case, 6 in a case 94300—6 lb per case, 6 in a case
Package Size and Volume	Not specified
Power Requirements	None
Material Type	Garment is selectively permeable
Construction Type	Seam sewn and the heat-sealed with tape
Color	Schoolbus yellow

Logistical Parameters

Ease of Use	Garment poses no major mobility or flexibility problems from wearer compared to other Level B CPC
Consumables	None
Maintenance Requirements	Not specified
Shelf Life	After 5 yr, recommended to use only for training
Transportability	No support equipment required for transportation
Operational Limitations	Off the shelf cooling systems are available. Operational limitations to be decided by safety manager.
Environmental Conditions	Designed to be worn in common outdoor conditions
Unit Cost	Cost to be determined by distributors
Maintenance Cost	Not applicable
Warranty	90 d
Don/Doff Information	Not specified
Use/Reuse	Limited use
Launderability	Suits are not launderable
Accessories	None

Special Requirements

Training Requirements	Not specified
Training Available	Available through regional sales representation
Manuals Available	User Manual and Permeation Guide available
Surveillance Testing Requirements	Visually inspect prior to use for holes or tears
Support Equipment	None
Testing Information	Not specified
Applicable Regulations	None
Health Hazards	None
Communications Interface Capability	Option is available
EOD Compatibility	Yes

WORKING DRAFT

General

Name

Lakeland Tychem® 9400 Level B Hood

Item # 54



Technology

Selectively permeable

Stock Number

94710

Protection Type

Percutaneous

Equipment Category

Hood (pullover, bell shape, and elastic face)

Availability

4 wk to 5 wk ARO

Current User(s)

Government organizations, municipal HazMat teams, fire departments, international HazMat/military organizations, and industry

Manufacturer

Lakeland Industries, Inc.
202 Pride Lane, SW
Decatur, AL 35602
POC: Carl Brown (Technical Product Specialist)
POC: Steve McCully (Product Manager)
800-645-9291 (Tel)
256-350-3011 (Fax)
Internet: www.lakeland.com

Manufacturer Type

Domestic

Developer

Lakeland Industries

Source

www.lakeland.com

Certification

Not applicable

Operational Parameters

Chemical Warfare (CW)

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L)

Agents Protected Against

Biological Warfare (BW)

Not specified

Agents Protected Against

Toxic Industrial (TIMs)

A broad range of TIMs. Contact Lakeland for further information.

Protected Against

Duration of Protection

Breakthrough time at minimum of 8 h, except Ammonia at 45 min, Dichloromethane at 391 min, and Methanol at 150 min

Recommended Use(s)

Tactical operations, hazmat teams, chemical/biological testing, training, and warfare environments

Physical Parameters

Sizes Available

1 size

Weight

10 lb per case, 12 in a case

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Package Size and Volume	Not specified
Power Requirements	None
Material Type	Garment is selectively permeable
Construction Type	Seam sewn and the heat-sealed with tape
Color	Schoolbus yellow

Logistical Parameters

Ease of Use	Garment poses no major mobility or flexibility problems from wearer compared to other Level B CPC
Consumables	None
Maintenance Requirements	Not specified
Shelf Life	After 5 yr, recommended to use only for training
Transportability	No support equipment required for transportation
Operational Limitations	Off the shelf cooling systems are available. Operational limitations to be decided by safety manager.
Environmental Conditions	Designed to be worn in common outdoor conditions
Unit Cost	Cost to be determined by distributors
Maintenance Cost	Not applicable
Warranty	90 d
Don/Doff Information	Not specified
Use/Reuse	Limited use
Launderability	Suits are not launderable
Accessories	None

Special Requirements

Training Requirements	None
Training Available	Available through regional sales representation
Manuals Available	User Manual and Permeation Guide available
Surveillance Testing Requirements	Visually inspect prior to use for holes or tears
Support Equipment	None
Testing Information	Not specified
Applicable Regulations	None
Health Hazards	None
Communications Interface Capability	Option is available
EOD Compatibility	Yes

WORKING DRAFT

General

Name

Lakeland Tychem® 9400 Level B Hood

Item # 55



Technology

Selectively permeable

Stock Number

94712

Protection Type

Percutaneous

Equipment Category

Hood, (bell shape, 20 mil PVC faceshield, and velcro straps under arm)

Availability

4 wk to 5 wk ARO

Current User(s)

Government organizations, municipal HazMat teams, fire departments, international HazMat/military organizations, and industry

Manufacturer

Lakeland Industries, Inc.
202 Pride Lane, SW
Decatur, AL 35602
POC: Carl Brown (Technical Product Specialist)
POC: Steve McCully (Product Manager)
800-645-9291 (Tel)
256-350-3011 (Fax)
Internet: www.lakeland.com
Domestic

Manufacturer Type

Developer

Lakeland Industries

Source

www.lakeland.com

Certification

Not applicable

Operational Parameters

Chemical Warfare (CW)

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L)

Agents Protected Against

Not specified

Biological Warfare (BW)

Agents Protected Against

A broad range of TIMs. Contact Lakeland for further information.

Toxic Industrial (TIMs)

Protected Against

Duration of Protection

Breakthrough time at minimum of 8 h, except Ammonia at 45 min, Dichloromethane at 391 min, and Methanol at 150 min

Recommended Use(s)

Tactical operations, hazmat teams, chemical/biological testing, training, and warfare environments

Physical Parameters

Sizes Available

1 size

Weight

10 lb per case, 6 in a case

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Package Size and Volume	Not specified
Power Requirements	None
Material Type	Garment is selectively permeable
Construction Type	Seam sewn and the heat-sealed with tape
Color	Schoolbus yellow

Logistical Parameters

Ease of Use	Garment poses no major mobility or flexibility problems from wearer compared to other Level B CPC
Consumables	None
Maintenance Requirements	Not specified
Shelf Life	After 5 yr, recommended to use only for training
Transportability	No support equipment required for transportation
Operational Limitations	Off the shelf cooling systems are available. Operational limitations to be decided by safety manager.
Environmental Conditions	Designed to be worn in common outdoor conditions
Unit Cost	Cost to be determined by distributors
Maintenance Cost	Not applicable
Warranty	90 d
Don/Doff Information	Not specified
Use/Reuse	Limited use
Launderability	Suits are not launderable
Accessories	None

Special Requirements

Training Requirements	None
Training Available	Available through regional sales representation
Manuals Available	User Manual and Permeation Guide available
Surveillance Testing Requirements	Visually inspect prior to use for holes or tears
Support Equipment	None
Testing Information	Not specified
Applicable Regulations	None
Health Hazards	None
Communications Interface Capability	Option is available
EOD Compatibility	Yes

WORKING DRAFT

General

Name	<i>Lakeland Tychem® 9400 Level B Apron</i>
Item # 56	Picture Not Available
Technology	Selectively permeable
Stock Number	94735
Protection Type	Percutaneous
Equipment Category	Apron, (bib style, knee length, ties at neck, and waist)
Availability	4 wk to 5 wk ARO
Current User(s)	Government organizations, municipal HazMat teams, fire departments, international HazMat/military organizations, and industry
Manufacturer	Lakeland Industries, Inc. 202 Pride Lane, SW Decatur, AL 35602 POC: Carl Brown (Technical Product Specialist) POC: Steve McCully (Product Manager) 800-645-9291 (Tel) 256-350-3011 (Fax) Internet: www.lakeland.com
Manufacturer Type	Domestic
Developer	Lakeland Industries
Source	www.lakeland.com
Certification	Not applicable

Operational Parameters

Chemical Warfare (CW)	Nerve agents (GA, GB, GD, and VX); blister agents (HD and L)
Agents Protected Against	
Biological Warfare (BW)	Not specified
Agents Protected Against	
Toxic Industrial (TIMs)	A broad range of TIMs. Contact Lakeland for further information.
Protected Against	
Duration of Protection	Breakthrough time at minimum of 8 h, except Ammonia at 45 min, Dichloromethane at 391 min, and Methanol at 150 min
Recommended Use(s)	Tactical operations, hazmat teams, chemical/biological testing, training, and warfare environments

Physical Parameters

Sizes Available	1 size
Weight	10 lb per case, 12 in a case
Package Size and Volume	Not specified
Power Requirements	None
Material Type	Garment is selectively permeable
Construction Type	Seam sewn and the heat-sealed with tape
Color	Schoolbus yellow

WORKING DRAFT

Logistical Parameters

Ease of Use	Garment poses no major mobility or flexibility problems from wearer compared to other Level B CPC
Consumables	None
Maintenance Requirements	Not specified
Shelf Life	After 5 yr, recommended to use only for training
Transportability	No support equipment required for transportation
Operational Limitations	Off the shelf cooling systems are available. Operational limitations to be decided by safety manager.
Environmental Conditions	Designed to be worn in common outdoor conditions
Unit Cost	Cost to be determined by distributors
Maintenance Cost	Not applicable
Warranty	90 d
Don/Doff Information	Not specified
Use/Reuse	Limited use
Launderability	Suits are not launderable
Accessories	None

Special Requirements

Training Requirements	None
Training Available	Available through regional sales representation
Manuals Available	User Manual and Permeation Guide available
Surveillance Testing Requirements	Visually inspect prior to use for holes or tears
Support Equipment	None
Testing Information	Not specified
Applicable Regulations	None
Health Hazards	None
Communications Interface Capability	Option is available
EOD Compatibility	Yes

WORKING DRAFT

General

Name

Lakeland Tychem® 9400 Level B Sleeves

Item # 57



Technology

Selectively permeable

Stock Number

94765

Protection Type

Percutaneous

Equipment Category

Sleeves, (elastic ends)

Availability

4 wk to 5 wk ARO

Current User(s)

Government organizations, municipal HazMat teams, fire departments, international HazMat/military organizations, and industry

Manufacturer

Lakeland Industries, Inc.
202 Pride Lane, SW
Decatur, AL 35602
POC: Carl Brown (Technical Product Specialist)
POC: Steve McCully (Product Manager)
800-645-9291 (Tel)
256-350-3011 (Fax)
Internet: www.lakeland.com
Domestic

Manufacturer Type

Developer

Lakeland Industries

Source

www.lakeland.com

Certification

Not applicable

Operational Parameters

Chemical Warfare (CW)

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L)

Agents Protected Against

Biological Warfare (BW)

Not specified

Agents Protected Against

Toxic Industrial (TIMs)

A broad range of TIMs. Contact Lakeland for further information.

Protected Against

Duration of Protection

Breakthrough time at minimum of 8 h, except Ammonia at 45 min, Dichloromethane at 391 min, and Methanol at 150 min

Recommended Use(s)

Tactical operations, hazmat teams, chemical/biological testing, training, and warfare environments

Physical Parameters

Sizes Available

18 in length

Weight

9 lb per case, 12 in a case

WORKING DRAFT

Package Size and Volume	Not specified
Power Requirements	None
Material Type	Garment is selectively permeable
Construction Type	Seam sewn and the heat-sealed with tape
Color	Schoolbus yellow

Logistical Parameters

Ease of Use	Garment poses no major mobility or flexibility problems from wearer compared to other Level B CPC
Consumables	None
Maintenance Requirements	Not specified
Shelf Life	After 5 yr, recommended to use only for training
Transportability	No support equipment required for transportation
Operational Limitations	Off the shelf cooling systems are available. Operational limitations to be decided by safety manager.
Environmental Conditions	Designed to be worn in common outdoor conditions
Unit Cost	Cost to be determined by distributors
Maintenance Cost	Not applicable
Warranty	90 d
Don/Doff Information	Not specified
Use/Reuse	Limited use
Launderability	Suits are not launderable
Accessories	None

Special Requirements

Training Requirements	None
Training Available	Available through regional sales representation
Manuals Available	User Manual and Permeation Guide available
Surveillance Testing Requirements	Visually inspect prior to use for holes or tears
Support Equipment	None
Testing Information	Not specified
Applicable Regulations	None
Health Hazards	None
Communications Interface Capability	Option is available
EOD Compatibility	Yes

WORKING DRAFT

General

Name

Lakeland Tychem® 9400 Level B Boot Covers

Item # 58



Technology

Selectively permeable

Stock Number

94740

Protection Type

Percutaneous

Equipment Category

Boot covers (elastic at top)

Availability

4 wk to 5 wk ARO

Current User(s)

Government organizations, municipal HazMat teams, fire departments, international HazMat/military organizations, and industry

Manufacturer

Lakeland Industries, Inc.
202 Pride Lane, SW
Decatur, AL 35602
POC: Carl Brown (Technical Product Specialist)
POC: Steve McCully (Product Manager)
800-645-9291 (Tel)
256-350-3011 (Fax)
Internet: www.lakeland.com

Manufacturer Type

Domestic

Developer

Lakeland Industries

Source

www.lakeland.com

Certification

Not applicable

Operational Parameters

Chemical Warfare (CW)

Nerve agents (GA, GB, GD, and VX); blister agents (HD and L)

Agents Protected Against

Biological Warfare (BW)

Not specified

Agents Protected Against

Toxic Industrial (TIMs)

A broad range of TIMs. Contact Lakeland for further information..

Protected Against

Duration of Protection

Breakthrough time at minimum of 8 h, except ammonia at 45 min, dichloromethane at 391 min, and methanol at 150 min

Recommended Use(s)

Tactical operations, hazmat teams, chemical/biological testing, training, and warfare environments

Physical Parameters

Sizes Available

1 size

Weight

9 lb per case, 12 in a case

WORKING DRAFT

Package Size and Volume	Not specified
Power Requirements	None
Material Type	Garment is selectively permeable
Construction Type	Seam sewn and the heat-sealed with tape
Color	School Bus yellow

Logistical Parameters

Ease of Use	Garment poses no major mobility or flexibility problems from wearer compared to other Level B CPC
Consumables	None
Maintenance Requirements	Not specified
Shelf Life	After 5 yr, recommended to use only for training
Transportability	No support equipment required for transportation
Operational Limitations	Off the shelf cooling systems are available. Operational limitations to be decided by safety manager.
Environmental Conditions	Designed to be worn in common outdoor conditions
Unit Cost	Cost to be determined by distributors
Maintenance Cost	Not applicable
Warranty	90 d
Don/Doff Information	Not specified
Use/Reuse	Limited use
Launderability	Suits are not launderable
Accessories	None

Special Requirements

Training Requirements	None
Training Available	Available through regional sales representation
Manuals Available	User Manual and Permeation Guide available
Surveillance Testing Requirements	Visually inspect prior to use for holes or tears
Support Equipment	None
Testing Information	Not specified
Applicable Regulations	None
Health Hazards	None
Communications Interface Capability	Option is available
EOD Compatibility	Yes

WORKING DRAFT

General

Name

Chemical Protective Undergarment (CPU)

Item # 59



Technology

LANX is a durable composite fabric containing polymerically encapsulated carbon for the adsorption of chemical warfare agents. The overgarment also features a shell fabric with flame resistant or nonflame resistant characteristics.

Stock Number

Undershirt: 8415-01-363-8692 thru 8700 (last 4 indicates size)
Drawers: 8415-01-363-8683 thru 8691 (last 4 indicates size)
Large sizes of shirts and drawers available if required

Protection Type

Percutaneous—Protects against CB agents

Equipment Category

CPU consists of a shirt and drawers as well as accessories such as all fabric glove liners, boot liners, and balaclavas. Shirts are available with hoods upon request.

Availability

Leadtime depends on order volume. All CPUs custom made to order.

Current User(s)

Current users include the U.S. Special Forces, U.S. Technical Escort Unit, 4th WMD Civilian Support Team, Washington State Patrol, Seattle Police Department, St. Paul Police Department, St. Louis Police Department, DeMil Contractors, and the Royal Canadian Mounted Police (RCMP). Law enforcement applications include SWAT teams, bomb squads, narcotics units and security details. HazMat responders utilize the CPU as a backup level of protection in the event of a breach in their nonpermeable or fully encapsulated protective outer apparel. The CPU provides flexibility to the breadth of the first response community as the basis of a chemical/biological protective system.

Manufacturer

LANX Fabric Systems
220 GBC Drive
Newark, DE 19702
POC: Randall D. Lofland
302-451-3060 (Tel)
302-451-0208 (Fax)
e-mail: randall.lofland@xymid.com

Manufacturer Type

Domestic

Developer

DuPont developed the LANX technology. LANX Fabric Systems has exclusive rights to manufacture and market the product.

Source

LANX Fabric Systems

Certification

All CPU's meet the chemical agent protective requirements of Military Specification MIL-U-44435. The only undergarment to qualify during JSLIST testing.

Operational Parameters

**Chemical Warfare (CW)
Agents Protected Against**

Distilled mustard (HD), soman (GD), thickened soman (TGD), Lewisite (L), VX, and other lower order agents such as sarin

WORKING DRAFT

Agents Protected Against

Biological Warfare (BW) Agents Protected Against

The CPU inherently protects against BW agents as the particulate size of a BW agent is larger than that of a CW agent making it easier to adsorb than CW agents.

Untested as of January 31, 2000, for TIMs application

Toxic Industrial (TIMs) Protected Against

Duration of Protection

The CPU has been tested and proven to provide 24 h of protection in a contaminated environment. Significantly reduces heat stress on user as a result of air permeable technology.

Recommended Use(s)

LANX recommends a systems approach to the CPU. An end user can successfully maintain protection from CB agents in addition to other threats by adding other types of protective apparel deemed appropriate to the threat, thus providing excellent protection from liquid, vapor, and aerosol threats. Examples of these systems include: Body armor and bomb suits worn over the CPU for agencies such as law enforcement. When worn beneath the body armor or bomb suit, the chemical protective integrity of the protective apparel stands a better chance of remaining intact versus CPO in the event of a shooting, stabbing, or explosion. Tactical Units wear their duty uniform or tactical coverall with the CPU for better mobility and reduced heat stress during periods of heavy physical exertion while maintaining protection against CB threats. HazMat or other responders utilize the CPU as a backup to a fully encapsulated (Level A) suit, or, as in the case of the U.S. Technical Escort Unit, with a Tyvek Suit to form a Level B ensemble. The US Military wears the CPU with the BDU and when coupled with the appropriate respiratory protection, assumes MOPP IV. Security details wear the CPU beneath duty uniforms or civilian clothing to establish a covert protective posture that does not alarm the public or alert the terrorist.

Physical Parameters

Sizes Available

Shirt: (chest) 32 thru 54
Drawers: (waist) 26 thru 48
Gloves: S, M, L, and XL
Boot liners: S, M, L, and XL

Weight

Weighs less than 3 lb per suit

Package Size and Volume

The CPU is vacuum packed and occupies approximately 1 ft³ of space

Power Requirements

None

Material Type

Air permeable, sorptive technology made with polymerically encapsulated activated carbon

Construction Type

Seams not liquid proof

Color

Charcoal gray

Logistical Parameters

Ease of Use

Very easy to use, similar to putting on long underwear. Air permeable technology significantly reduces heat stress allowing the user to work exponentially longer than nonpermeable technologies.

Consumables

Not specified

Maintenance Requirements

Store in dry place, standard indoor warehouse conditions

Shelf Life

The ultimate shelf life of the CPU has yet to be determined. The technology is 10 yr old and shows no signs of degradation during annual testing. The US Military currently assesses the shelf life to be 12 yr.

WORKING DRAFT

Transportability	May be transported easily whether in a backpack, garment bag, tote bag, or even hand carried
Operational Limitations	The CPU provides excellent CB agent protection. Additional liquid and splash protection may come from a duty uniform, tyvek suit, fully encapsulated liquid barrier suit or other type of overgarment or shell fabric.
Environmental Conditions	The CPU works well in most climates. Due care should be taken to keep the CPU in a bag when not in use. The CPU's air permeable nature allows for the transportation of sweat away from the body, significantly reducing heat stress.
Unit Cost	Call for a quotation at 302-451-3060 POC: Randall D. Lofland
Maintenance Cost	None is stored properly
Warranty	The CPU is manufactured to Military Pattern PD 97-04 and meets the Chemical Protective requirements of Military Specification MIL-U-44435
Don/Doff Information	The CPU is easy to don and doff. One man may don and doff his own CPU under normal circumstances. Some agencies require a two man doffing procedure following contamination. Check your agency protocol.
Use/Reuse	The CPU may be reused after wearing and laundering. After contamination with CW agent, current military doctrine dictates disposing of the garment properly.
Launderability	Yes—The CPU is launderable up to 10 launderings if uncontaminated. If contaminated to agent, dispose of IAW procedures.
Accessories	The CPU has accessories such as all fabric glove liners, boot liners, balaclavas, and a shirt option with a hood
<u>Special Requirements</u>	
Training Requirements	Minimal training required (< 20 min). Contaminated CPU doffing procedures may vary. Check local protocols
Training Available	Introductory training is available upon request.. Advanced training is based upon agency protocol and should be developed at the local level
Manuals Available	Care, use, and storage information is available if needed
Surveillance Testing Requirements	The manufacturer performs CCL4 testing annually prior to distribution to end users. The end user should visually inspect the CPU at regularly scheduled intervals.
Support Equipment	Not applicable
Testing Information	The most recent testing of the LANX CPU was performed using AVLAGE Test Operating Procedure (TOP) 8-2-501. See JSLIST (MIL-U-44435).
Applicable Regulations	The CPU is governed by the International Traffic and Arms Regulations (ITAR)
Health Hazards	MSDSs are on file. No indication of health hazards present.
Communications Interface Capability	Not applicable
EOD Compatibility	Works well with a bomb squad application. CPUs are part of an ordnance application with Med-Eng bomb suits available for EOD applications through: Med-Eng Systems, Inc. 2400 St. Laurent Boulevard Ottawa, Ontario, Canada K1G 6C4 610-739-9646 (Tel)

WORKING DRAFT

General

Name

Escape Jacket C/92F with optional Escape Hood

Item # 60



Technology

Jacket is constructed from a 70 um 5 ply PE-EVAL film

Stock Number

C/92F

Protection Type

Percutaneous

Equipment Category

Plastic jacket with sealed sleeved ends. An integrated hood has a half mask assembled to the hood. An escape hood is available as an option.

Availability

Commercial

Current User(s)

Civilian or Military

Manufacturer

New Pac Safety AB
P.O. Box 174
S-566 23 Habo
Sweden
+46 36 411 39 (Tel)
+46 36 410 31 (Fax)
E-mail: info@newpac.se
Foreign

Manufacturer Type

Developer

New Pac Safety AB

Source

Sales: INDEF Services Intl.
14847 Lee Highway
Amissville, VA 20106-0089
540-937-7327 (Tel)
540-937-7328 (Fax)
indefsteve@msn.com

Certification

Not specified

Operational Parameters

Chemical Warfare (CW)

NBC

Agents Protected Against

Biological Warfare (BW)

Not specified

Agents Protected Against

Toxic Industrial (TIMs)

Most hazardous chemicals

Protected Against

Duration of Protection

The film provides chemical protection for more than 8 h

Recommended Use(s)

Personal NBC safe escape outfit

WORKING DRAFT

Physical Parameters

Sizes Available	Not specified
Weight	Lightweight
Package Size and Volume	Comes packed into a small textile bag
Power Requirements	Not applicable
Material Type	Jacket is constructed from a 70 um 5 ply PE-EVAL film
Construction Type	A thin plastic jacket with tightly sealed sleeve ends. The integrated hood has half mask assembled to the hood. The hood has a clear front for sufficient see through, and jacket has a waist seal.
Color	Military green

Logistical Parameters

Ease of Use	Not specified
Consumables	None
Maintenance Requirements	Not specified
Shelf Life	Not specified
Transportability	Not applicable
Operational Limitations	Not specified
Environmental Conditions	Not specified
Unit Cost	Not specified
Maintenance Cost	Not specified
Warranty	Not specified
Don/Doff Information	Not specified
Use/Reuse	Not specified
Launderability	Not specified
Accessories	Not specified

Special Requirements

Training Requirements	Not specified
Training Available	Not specified
Manuals Available	Not specified
Surveillance Testing Requirements	Not specified
Support Equipment	An Escape Hood C/92F is also available as an option
Testing Information	Not specified
Applicable Regulations	Not specified
Health Hazards	Not specified
Communications Interface Capability	Not specified
EOD Compatibility	Not specified

WORKING DRAFT

General

Name

PONCHO NP/60

Item # 61



Technology

Constructed from a 50 μm to 60 μm thick, rectangular shaped polyethylene film, containing no protective PA barrier

Stock Number

NATO Stock No: 8415 25 148 4799

Protection Type

Percutaneous

Equipment Category

Poncho - Designed to protect an ordinary textile/charcoal combat suit and to be worn before an expected warfare attack of C-drops falling from a height

Availability

Commercial

Current User(s)

Military

Manufacturer

New Pac Safety AB
P.O. Box 174
S-566 23 Habo
Sweden
+46 36 411 39 (Tel)
+46 36 410 31 (Fax)
E-mail: info@newpac.se
Foreign

Manufacturer Type

Developer

New Pac Safety AB

Source

Sales: INDEF Services Intl.
14847 Lee Highway
Amissville, VA 20106-0089
540-937-7327 (Tel)
540-937-7328 (Fax)
indefsteve@msn.com

Certification

Not specified

Operational Parameters

Chemical Warfare (CW)

NBC

Agents Protected Against

Biological Warfare (BW)

Not specified

Agents Protected Against

Toxic Industrial (TIMs)

Most hazardous chemicals

Protected Against

Duration of Protection

The film provides full protection against liquid warfare agents for at least 30 min

Recommended Use(s)

Military

WORKING DRAFT

Physical Parameters

Sizes Available	Not specified
Weight	Lightweight
Package Size and Volume	Not specified
Power Requirements	Not applicable
Material Type	Constructed from a 50 µm to 60 µm thick, rectangular shaped polyethylene film, containing no protective PA barrier
Construction Type	Rectangular shaped poncho. In the center of the poncho is an extended hood section with an elastic opening fitting tightly to the mask. The helmet may be worn inside the hood.
Color	Military green

Logistical Parameters

Ease of Use	Not specified
Consumables	None
Maintenance Requirements	Not specified
Shelf Life	Not specified
Transportability	Not applicable
Operational Limitations	Not specified
Environmental Conditions	Not specified
Unit Cost	Not specified
Maintenance Cost	Not specified
Warranty	Not specified
Don/Doff Information	Not specified
Use/Reuse	Not specified
Launderability	Not specified
Accessories	Not specified

Special Requirements

Training Requirements	Not specified
Training Available	Not specified
Manuals Available	Not specified
Surveillance Testing Requirements	Not specified
Support Equipment	Not specified
Testing Information	Not specified
Applicable Regulations	Not specified
Health Hazards	Not specified
Communications Interface Capability	Not specified
EOD Compatibility	Not specified

WORKING DRAFT

General

Name

North Silver Shield Gloves

Item # 62



Technology

Made from Norfoil, a lightweight, flexible laminate which resists permeation and breakthrough of many toxic/hazardous chemicals

Stock Number

Not specified

Protection Type

Percutaneous

Equipment Category

Gloves

Availability

Not specified

Current User(s)

Not specified

Manufacturer

North

Manufacturer Type

Not specified

Developer

North

Source

Ralmike's Tool-A-Rama, Inc.
524 Lincoln Boulevard
Middlesex, NJ 08846
800-462-4243 (Tel)
800-472-5645 (Fax)
Not specified

Certification

Operational Parameters

Chemical Warfare (CW)

Not specified

Agents Protected Against

Biological Warfare (BW)

Not specified

Agents Protected Against

Toxic Industrial (TIMs)

Many hazardous chemicals

Protected Against

Duration of Protection

Not specified

Recommended Use(s)

Chemical and petrochemical laboratories, spill cleanups, and many other applications

Physical Parameters

Sizes Available

M and L

Weight

Not specified

Package Size and Volume

Not specified

Power Requirements

None

Material Type

Made from Norfoil, a lightweight, flexible laminate which resists permeation and breakthrough of many toxic/hazardous chemicals

WORKING DRAFT

Construction Type Not specified

Color Silver-gray

Logistical Parameters

Ease of Use Not specified

Consumables None

Maintenance Requirements None

Shelf Life Not specified

Transportability Not applicable

Operational Limitations Not specified

Environmental Conditions Not specified

Unit Cost Not specified

Maintenance Cost Not specified

Warranty Not specified

Don/Doff Information Not specified

Use/Reuse Not specified

Laundryability Not specified

Accessories Not specified

Special Requirements

Training Requirements None

Training Available None

Manuals Available Not specified

Surveillance Testing Not specified

Requirements

Support Equipment Not specified

Testing Information Not specified

Applicable Regulations Not specified

Health Hazards Not specified

Communications Interface Not specified

Capability

EOD Compatibility Not specified

WORKING DRAFT

General

Name	<i>Rocky Shoes and Boots</i>
Item # 63	Picture Not Available
Technology	Crosstech* footwear fabric, from W.L. Gore and Associates, is durably waterproof, and bloodborne pathogen and common chemical penetration resistant
Stock Number	Eliminator 8030, 8032, 8036, and 8132 ANSI Eliminator Steel toe 6032 and 6432 (Women's)
Protection Type	Percutaneous
Equipment Category	Shoes and boots with Crosstech
Availability	In production
Current User(s)	U.S. Army, Air Force, Coast Guard, Police, and EMS
Manufacturer	Rocky Shoes and Boots, Inc. 39 East Canal St. Nelsonville, OH 45764 POC: Mike Mikulecky 903-489-3673 (Tel)
Manufacturer Type	Domestic
Developer	Rocky Shoes and Boots, In. Crosstech by Gore-Tex
Source	Rocky Shoes and Boots, Inc.
Certification	NFPA 1999 (Rocky* styles using Crosstech*), Protective Clothing for Emergency Medical Operations (1992 edition), ASTM F 1671 (Standard Test Method for Resistance of Protective Clothing Materials to Penetration by Bloodborne Pathogens), ASTM F 903 (C) (Standard Test Method for Resistance of Protective Clothing Materials to Penetration by Liquids)

Operational Parameters

Chemical Warfare (CW)	Not specified
Agents Protected Against	
Biological Warfare (BW)	Protective to penetration by bloodborne pathogens
Agents Protected Against	
Toxic Industrial (TIMs)	TIMs not specified
Protected Against	
Duration of Protection	Not specified
Recommended Use(s)	Resistant to common chemicals including battery acid, gasoline, hydraulic fluid, swimming pool chemicals, and aqueous film form foam

Physical Parameters

Sizes Available	5 through 10 (women) 7 through 15 (men)
Weight	Not specified
Package Size and Volume	Not specified
Power Requirements	Not applicable

WORKING DRAFT

Material Type	Rocky® Eliminator® 2: Padded collar and tongue for comfortable fit. Durable yet lightweight 1000 denier Cordura® nylon, Cambrelle® lining, Thinsulate® insulation, waterproof full grain leather, and thermoplastic toe box. Sole: Dual density polyurethane outsole, Axidyne® polymer impact cushion, steel shank, Texon® insole for support, Axidyne* polymer impact cushion on forepart, and toe areas.
Construction Type	Direct attach construction sole to upper; double-stitched, and sealed seams
Color	Not specified
<u>Logistical Parameters</u>	
Ease of Use	Not applicable
Consumables	Not applicable
Maintenance Requirements	Not applicable
Shelf Life	Not specified
Transportability	Not applicable
Operational Limitations	Designed using dual density blown urethane footbed to cushion and cradle the foot. Air perforations in forepart allow for air exchange—creating both a cushioning and cooling sensation.
Environmental Conditions	Not specified
Unit Cost	~ \$90
Maintenance Cost	Not applicable
Warranty	Not specified
Don/Doff Information	Not specified
Use/Reuse	Can be reused
Launderability	Soap and water
Accessories	Not applicable
<u>Special Requirements</u>	
Training Requirements	Not applicable
Training Available	Not applicable
Manuals Available	Not applicable
Surveillance Testing Requirements	Not applicable
Support Equipment	Not applicable
Testing Information	NFPA 999 (Rocky* styles using Crosstech*), Protective Clothing for Emergency Medical Operations (1992 edition), ASTM F 1671 (Standard Test Method for Resistance of Protective Clothing Materials to Penetration by Bloodborne Pathogens), ASTM F 903 (C) (Standard Test Method for Resistance of Protective Clothing Materials to Penetration by Liquids)
Applicable Regulations	Not applicable
Health Hazards	Not applicable
Communications Interface Capability	Not applicable
EOD Compatibility	Not specified

WORKING DRAFT

General

Name

Servus HZT Hazmat Knee Boot

Item # 64



Technology

Safe-toe steel toe cap, puncture resistant steel toe midsole, foot form, and contour insole

Stock Number

Not specified

Protection Type

Percutaneous

Equipment Category

Boots

Availability

Not specified

Current User(s)

Not specified

Manufacturer

Servus Firefighter Footwear
1 Innovation Court
Dayton, OH 45413
POC: Attn: Karen

Manufacturer Type

Not specified

Developer

Not specified

Source

www.servusfire.com
email: shannont@totalfiregroup.com

Certification

NFPA 1991 Requirements

Operational Parameters

Chemical Warfare (CW)

Not specified

Agents Protected Against

Biological Warfare (BW)

Not specified

Agents Protected Against

Toxic Industrial (TIMs)

Not specified

Protected Against

Duration of Protection

Not specified

Recommended Use(s)

HazMat

Physical Parameters

Sizes Available

Boot heights are proportioned to boot size

Weight

Not specified

Package Size and Volume

Not specified

Power Requirements

None

Material Type

Not specified

Construction Type

Safe-toe steel toe cap, puncture resistant steel toe midsole, foot form, and contour insole

WORKING DRAFT

Color

Green with black soles

Logistical Parameters

Ease of Use	Not specified
Consumables	None
Maintenance Requirements	None
Shelf Life	Not specified
Transportability	Not applicable
Operational Limitations	Not specified
Environmental Conditions	Not specified
Unit Cost	Not specified
Maintenance Cost	Not specified
Warranty	Not specified
Don/Doff Information	No assistance necessary
Use/Reuse	Not specified
Launderability	TDT self-cleaning outsole
Accessories	None

Special Requirements

Training Requirements	None
Training Available	None
Manuals Available	Not specified
Surveillance Testing Requirements	Not specified
Support Equipment	Not specified
Testing Information	Not specified
Applicable Regulations	Not specified
Health Hazards	Not specified
Communications Interface Capability	Not specified
EOD Compatibility	Not specified

WORKING DRAFT

General

Name	<i>Saratoga Chemical Protective Gloves</i>
Item # 65	Picture Not Available
Technology	Permeable Saratoga carbon sphere technology
Stock Number	TS CO-0326B
Protection Type	Percutaneous
Equipment Category	Gloves
Availability	Currently in production
Current User(s)	Local, State, and Federal law enforcement agencies
Manufacturer	Tex-Shield, Inc. 5206 Morrowick Rd. Charlotte, NC 28226 POC: Nona Fahl 704-341-3681 (Tel) 704-341-3468 (Fax)
Manufacturer Type	Domestic
Developer	Tex-Shield, Inc.
Source	Tex-Shield, Inc.
Certification	Meets chemical warfare agent protection requirements of MIL-C-29462 dated April 15, 1992

Operational Parameters

Chemical Warfare (CW)	All classes of chemical warfare agents when used as directed with chemical warfare protective mask, suit, and overboots or socks
Agents Protected Against	
Biological Warfare (BW)	Protects against biological warfare agents when used as directed with appropriate mask, suit, and overboots or socks
Agents Protected Against	
Toxic Industrial (TIMs)	Not tested
Protected Against	
Duration of Protection	Meet the requirements for protection from chemical warfare agents for up to 30 d wear, and 120 calendar days after initial usage or 24 h after contamination
Recommended Use(s)	Tactical operations

Physical Parameters

Sizes Available	S, M, L, and XL
Weight	Varies by size. Nominal weight < 0.5 lb/pair.
Package Size and Volume	Folded gloves in package fit into trouser pocket of Saratoga JSLIST or HAMMER suit
Power Requirements	None
Material Type	Saratoga permeable glove of activated carbon spheres on cotton knit. Leather palm provides additional chemical protection.
Construction Type	Seam sealing not required in Saratoga garments
Color	Green, black

WORKING DRAFT

Logistical Parameters

Ease of Use	Comfortable, breathable glove system for liquid and vapor chemical warfare contamination
Consumables	None
Maintenance Requirements	General inspection for holes and tears. Record wear use.
Shelf Life	10 yr
Transportability	Vacuum sealed, compact package
Operational Limitations	Durable glove system. Provides dexterity, comfort, and protection from chemical warfare agents. Glove should be protected by leather or appropriate work glove or overglove when necessary.
Environmental Conditions	No environmental usage limitations. Not effected by rain, fog, snow, salt, and water.
Unit Cost	\$40 per system
Maintenance Cost	None
Warranty	Free of defects in material and workmanship for 1 yr
Don/Doff Information	Assistance is not required
Use/Reuse	Reusable
Laundryability	Not machine launderable, spot clean
Accessories	Gloves may be purchased as package with Saratoga suits and socks

Special Requirements

Training Requirements	No special training required
Training Available	No special training required
Manuals Available	Instructions for use supplied with gloves
Surveillance Testing Requirements	No testing required. Inspection for tears and damage required.
Support Equipment	Chemical warfare protective mask, suits, and socks or overboots
Testing Information	Independent test data/certificate of compliance is available upon request.
Applicable Regulations	None
Health Hazards	None
Communications Interface Capability	Not applicable
EOD Compatibility	Interface with EOD CB protective suit

WORKING DRAFT

General

Name	<i>Saratoga Chemical Protective Socks</i>
Item # 66	Picture Not Available
Technology	Permeable Saratoga carbon sphere technology
Stock Number	TS CO-0356
Protection Type	Percutaneous
Equipment Category	Socks
Availability	Currently in production
Current User(s)	Local, State, and Federal law enforcement agencies
Manufacturer	Tex-Shield, Inc. 5206 Morrowick Rd. Charlotte, NC 28226 POC: Nona Fahl 704-341-3681 (Tel) 704-341-3468 (Fax) Domestic
Manufacturer Type	Tex-Shield, Inc.
Developer	Tex-Shield, Inc.
Source	Tex-Shield, Inc.
Certification	Meets system chemical tests requirements, Of PD 97-04

Operational Parameters

Chemical Warfare (CW) Agents Protected Against	All classes of chemical warfare agents when used as directed with chemical warfare protective mask, suit, and gloves
Biological Warfare (BW) Agents Protected Against	Protects against biological warfare agents when used as directed with appropriate mask, suit, and gloves
Toxic Industrial (TIMs) Protected Against	Not tested
Duration of Protection	Meet the requirements for protection from chemical warfare agents for up to 6 launderings, 30 d wear, 120 calendar days after initial usage or 24 h after contamination
Recommended Use(s)	Tactical operations, all law enforcement

Physical Parameters

Sizes Available	S, M, L, and XL
Weight	Varies by size. Nominal weight < 0.5 lb/pair.
Package Size and Volume	Folded socks in package fit into trouser pocket of Saratoga JSLIST or HAMMER suit
Power Requirements	None
Material Type	Saratoga permeable fabric of activated carbon spheres on cotton knit covered by lightweight, wicking, and thermoplastic knit. Not FR.
Construction Type	Seam sealing not required in Saratoga garments
Color	White, black

WORKING DRAFT

Logistical Parameters

Ease of Use	Lightweight, comfortable socks compatible with standard boots. No change in boot size is required.
Consumables	None
Maintenance Requirements	General garment inspection for holes and tears. Standard laundering. Record wear use and laundering.
Shelf Life	10 yr
Transportability	Vacuum sealed, compact package
Operational Limitations	Durable sock. Does not cause blisters when worn over standard socks with boots.
Environmental Conditions	No environmental usage limitations. Not effected by rain, fog, snow, salt, and water.
Unit Cost	\$30 per system
Maintenance Cost	None
Warranty	Free of defects in material and workmanship for 1 yr
Don/Doff Information	Assistance is not required
Use/Reuse	Reusable and launderable
Launderability	Socks are launderable 6 times for hygienic purposes. Standard home laundering.
Accessories	Socks may be purchased as package with Saratoga suits and gloves

Special Requirements

Training Requirements	No special training required
Training Available	No special training required
Manuals Available	Instructions for use supplied with socks
Surveillance Testing Requirements	No testing required. Inspection for tears and damage required.
Support Equipment	Chemical warfare protective mask, suits, and gloves
Testing Information	Independent test data/certificate of compliance is available upon request.
Applicable Regulations	None
Health Hazards	None
Communications Interface Capability	Not applicable
EOD Compatibility	Interface with EOD CB protective suit

WORKING DRAFT

General

Name	<i>Saratoga Chemical Protective Undergarment</i>
Item # 67	Picture Not Available
Technology	Permeable Saratoga carbon sphere technology
Stock Number	TS U CO10356
Protection Type	Percutaneous
Equipment Category	Undergarment
Availability	Currently in production
Current User(s)	Local, State, and Federal law enforcement agencies
Manufacturer	Tex-Shield, Inc. 5206 Morrowick Rd. Charlotte, NC 28226 POC: Nona Fahl 704-341-3681 (Tel) 704-341-3468 (Fax)
Manufacturer Type	Domestic
Developer	Tex-Shield, Inc.
Source	Tex-Shield, Inc.
Certification	Meets vapor chemical warfare protection of MIL-C-29462

Operational Parameters

Chemical Warfare (CW) Agents Protected Against	Protects against all classes of vapor chemical warfare agents when used as directed with chemical warfare protective mask, boots or socks, and gloves. Liquid protection depends on outer clothing layer.
Biological Warfare (BW) Agents Protected Against Toxic Industrial (TIMs) Protected Against Duration of Protection	Protects against biological warfare agents when used as directed with appropriate mask, outer clothing, socks or boots, and gloves Not tested Meet the requirements for protection from chemical warfare agents for up to 6 launderings, 30 d wear, 120 calendar days after initial usage or 24 h after contamination. Liquid protection depends on outer clothing layer.
Recommended Use(s)	Tactical operations, intelligence, medical first responders

Physical Parameters

Sizes Available	S, M, L, and XL
Weight	Varies by size
Package Size and Volume	Nominal 10 in x 6 in x 3 in vacuum sealed package size for each piece
Power Requirements	None
Material Type	Saratoga permeable fabric of activated carbon spheres on cotton knit covered by lightweight, wicking, and thermoplastic knit. Not FR.
Construction Type	Seam sealing not required in Saratoga garments
Color	White, black

WORKING DRAFT

Logistical Parameters

Ease of Use	Lightweight, comfortable, compatible with other uniforms, and equipment
Consumables	None
Maintenance Requirements	General garment inspection for holes and tears. Standard laundering. Record wear use and laundering.
Shelf Life	10 yr
Transportability	Vacuum sealed, compact package
Operational Limitations	Durable undergarment. Liquid chemical protection depends on outer clothing layer.
Environmental Conditions	No environmental usage limitations. Not effected by rain, fog, snow, salt, and water.
Unit Cost	\$180 per suit
Maintenance Cost	None
Warranty	Free of defects in material and workmanship for 1 yr
Don/Doff Information	Assistance is not required
Use/Reuse	Reusable and launderable
Launderability	Launderable 6 times for hygienic purposes. Standard home or industrial laundering.
Accessories	Undergarments may be purchased as package with Saratoga socks and gloves

Special Requirements

Training Requirements	No special training required
Training Available	No special training required
Manuals Available	Instructions for use included with garment
Surveillance Testing Requirements	No testing required. Inspection for tears and damage required.
Support Equipment	Chemical warfare protective mask, outer clothing, socks or overboots and gloves
Testing Information	Independent test data/certificate of compliance is available upon request.
Applicable Regulations	None
Health Hazards	None
Communications Interface Capability	Not applicable
EOD Compatibility	Interface with EOD protective suit

WORKING DRAFT

General

Name

Tingley Hazproof Overboot

Item # 68



Technology

Fire retardant PVC alloy impermeable per NFPA chemicals and CW. Protection is provided by barrier material.

Stock Number

82330

Protection Type

Percutaneous

Equipment Category

Boots

Availability

Commercially available

Current User(s)

NFPA

Manufacturer

Tingley Rubber Corporation
200 South Avenue
P.O. Box 100
South Plainfield, NJ 07080
800-631-5493 (Tel)
908-631-5498 (Tel)
908-757-9239 (Fax)

Manufacturer Type

Domestic

Developer

Tingley Rubber Corporation

Source

Tingley Rubber Corporation

Certification

Safety Equipment Institute (SEI)

Operational Parameters

Chemical Warfare (CW)

Nerve—GA, GB, GD, GF, and VX; blister—H, HD, HN, L

Agents Protected Against

Biological Warfare (BW)

Classical BW agents: Anthrax, typhus, ricin, and ebola

Agents Protected Against

Toxic Industrial (TIMs)

TIMs protected: 21 chemical family groups

Protected Against

Duration of Protection

CW protection—6 h. TIMs—1 h minimum in each of the 21 chemical groups.

Recommended Use(s)

Tactical operations and crisis management

Physical Parameters

Sizes Available

Sizes 7 through 13

Weight

6.66 lb

Package Size and Volume

12.5 in x 18.5 in x 5.5 in

Power Requirements

Not applicable

WORKING DRAFT

Material Type	Fire retardant PVC alloy impermeable per NFPA chemicals and CW
Construction Type	Seamless construction
Color	Orange upper with yellow sole
<u>Logistical Parameters</u>	
Ease of Use	Highly mobile, flexible, and compatible with encapsulated suits
Consumables	Not applicable
Maintenance Requirements	Check for cuts and damage after use
Shelf Life	Shelf life indefinite. Critical temperature over 250 °F for extended time.
Transportability	Transportable and compatible with life support equipment
Operational Limitations	No detrimental effect for extended service at temperature of 50 °F, 70 °F, and 90 °F
Environmental Conditions	Designed to be worn in common outdoor weather conditions and climates
Unit Cost	\$56
Maintenance Cost	Observation of any significant damage
Warranty	Tingley warrants the boot to be free of defects in material and workmanship for 3 yr. This warrantee does not cover industrial and commercial use or damage thereof.
Don/Doff Information	No assistance required in don/doff
Use/Reuse	May be reused if not contaminated or damaged. Rinse off with mud, soap, and water.
Launderability	Depending on chemical contamination, may be rinsed and reused several times
Accessories	Not applicable
<u>Special Requirements</u>	
Training Requirements	Don/doff precycle
Training Available	Not required, other than damage assessment upon use
Manuals Available	Hang tag on each pair
Surveillance Testing Requirements	Inspection for cuts, damage, and chemical contamination
Support Equipment	Not applicable
Testing Information	Tested chemical and physically per NFPA/SEI available
Applicable Regulations	Not applicable
Health Hazards	Not applicable
Communications Interface Capability	Compatible with fully encapsulated suits
EOD Compatibility	Compatible with EOD suits in a CB environment

WORKING DRAFT

General

Name	<i>Weapons of Mass Destruction (WMD) Contamination Containment Bag</i>
Item # 69	Picture Not Available
Technology	Impermeable, specialty laminate. Contains thermoplastic materials. Is self-extinguishing. Protection is provided by barrier material.
Stock Number	None
Protection Type	Percutaneous
Equipment Category	Miscellaneous
Availability	Commercially available. In production since 1980.
Current User(s)	Office of Special Technology, field trials ongoing
Manufacturer	ILC Dover, Inc. One Moonwalker Rd. Frederica, DE 19946–2080 POC: Rhonda Haller 800–931–9567 (Tel)
Manufacturer Type	Domestic
Developer	ILC Dover, Inc.
Source	ILC Dover, Inc.
Certification	Not applicable

Operational Parameters

Chemical Warfare (CW) Agents Protected Against	Effective against all standard military agents such as G agents, VX, HD, and CK
Biological Warfare (BW) Agents Protected Against	Protection levels tested to a PF of >10000, which renders the system effective against biological agents. The material used for the overpack bags is also used in a level A suit in operation by the CDC.
Toxic Industrial (TIMs) Protected Against	Performance to be determined, but material used is inherently resistant to chemical permeation and damage induced by exposure to toxic chemicals (this material is used in a Level A suit, suitable for industrial chemical use)
Duration of Protection	> 3 h
Recommended Use(s)	Not specified

Physical Parameters

Sizes Available	3 sizes: small: 11 in x 42 in, medium: 22 in x 94 in, and large: 44 in x 144 in
Weight	Maximum < 2 lb
Package Size and Volume	Maximum size of packaged overpack bag is 44 in x ~3 in x ~3 in, depending on size selected
Power Requirements	Not applicable
Material Type	Impermeable, specialty laminate. Contains thermoplastic materials. Is self-extinguishing. The laminate material is designed specifically to be highly resistant to puncture and rough handling.
Construction Type	Heat sealed seam construction

WORKING DRAFT

Color

Light blue

Logistical Parameters

Ease of Use

Bags can be sealed easily while wearing MOPP4 gear, specifically gloves

Consumables

None

Maintenance Requirements

None

Shelf Life

5 yr to 10 yr

Transportability

Transportable via air, ground, or sea

Operational Limitations

Operational environment: 32 °F to 125 °F

Storage environment: -20 °F to 165 °F

Resistant and operable in salt fog, high/low humidity, and rain environments

Environmental Conditions

Laminate material will give off toxic vapors during combustion

Unit Cost

Small: \$150/ea

Medium: \$250/ea

Large: \$540/ea

Maintenance Cost

None

Warranty

90 d on defects in materials and workmanship

Don/Doff Information

Not applicable

Use/Reuse

Disposable after one exposure

Laundryability

Article is not launderable, but can be decontaminated to prevent contamination of the user during operation

Accessories

None

Special Requirements

Training Requirements

Very low

Training Available

As required

Manuals Available

None

Surveillance Testing Requirements

No maintenance is required

Support Equipment

None

Testing Information

Test data was generated during the WMD contract through the USA

Material Command and Acquisition Center, contract #

DAAD05-98-C-0023

Applicable Regulations

Not applicable

Health Hazards

Not applicable

Communications Interface Capability

Not specified

EOD Compatibility

Not specified

WORKING DRAFT

General

Name	<i>Chemical-Biological Eye/Respiratory Disposable (C-BERD) Hood/Mask</i>
Item # 70	Picture Not Available
Technology	Impermeable, specialty laminate. Is partially flammable, but self-extinguishes itself.
Stock Number	None
Protection Type	Percutaneous/respiratory
Equipment Category	Hood/mask
Availability	Commercially available; 600 units of military configuration delivered to SO/LIC. Commercial version in low to medium quantities available in 3 mo to 6 mo, pending on order.
Current User(s)	SO/LIC, Saudi Arabia
Manufacturer	ILC Dover, Inc. One Moonwalker Rd. Frederica, DE 19946-2080 POC: Rhonda Haller 800-931-9567 (Tel) Domestic
Manufacturer Type	
Developer	ILC Dover, Inc.
Source	ILC Dover, Inc.
Certification	We intend to submit the C-BERD, along with past test data, to SBCCOM in April for testing under their Test Support Agreement (TSA) program. Upon completion of the TSA, we will submit C-BERD for NIOSH certification.

Operational Parameters

Chemical Warfare (CW) Agents Protected Against	Protection against GB, GD, VX, HD, CK, and riot control agents such as CS
Biological Warfare (BW) Agents Protected Against	>99.99 % filtration efficiency against biological agents, simulated using polydispersed corn oil aerosol with MMAD of 0.4 μ to 0.6 μ
Toxic Industrial (TIMs) Protected Against	Protection against TIMs can be tailored by the addition of filter snap-ons. This capability warrants further discussion.
Duration of Protection	> 2 h
Recommended Use(s)	Not specified

Physical Parameters

Sizes Available	1 size fits all
Weight	1.2 lb as worn
Package Size and Volume	< 12 in x 5 in x 1.5 in packaged size possible with vacuum packing
Power Requirements	Not applicable
Material Type	Impermeable, specialty laminate. Is partially flammable, but self-extinguishes itself. In packaged state, resistant to rough handling as simulated by Q113 tumbler. As worn, mask is resistant to typical military rough handling and operation.

WORKING DRAFT

Construction Type

Heat sealed seam construction

Color

Semi-transparent

Logistical Parameters**Ease of Use**

Mask does not restrict FOV, range of motion, or introduce excessive wearer encumbrance. > 2 h of wear are tolerable from a comfort standpoint.

Consumables

None

Maintenance Requirements

None

Shelf Life

5 yr to 10 yr

Transportability

Transportable via air, ground, or sea

Operational Limitations

Operational temperature: -20 °F to 125 °F. Storage temperature: -65 °F to 165 °F. Resistant and operable in salt fog, high/low humidity, and rain environments.

Environmental Conditions

Mask material will give off toxic vapors during combustion

Unit Cost

\$50 to \$75 per unit, in high volume

Maintenance Cost

None

Warranty

90 d on defects in materials and workmanship

Don/Doff Information

No assistance needed; self-donning and doffing within 15 sec

Use/Reuse

Disposable after one exposure

Launderability

Article is not launderable. Mask can be decontaminated to allow for CCA doffing.

Accessories

None

Special Requirements**Training Requirements**

Very low—follow donning directions on label

Training Available

As required

Manuals Available

Training/operations manual is available

Surveillance Testing

No maintenance is required

Requirements**Support Equipment**

None

Testing Information

Test data generated during a formal qualification effort for the Air Force on the DERP program, Contract # F33657-92-C-2116. See attached additional data pertaining to requirements of the product and actual data obtained.

Applicable Regulations

Not applicable

Health Hazards

No skin toxicity or similar issues have been identified

Communications Interface

Not specified

Capability**EOD Compatibility**

Not specified

WORKING DRAFT

General

Name

ILC Model 15 Cool Vest

Item # 71



Technology

Permeable, flame retardant cotton or Nomex. Cool Vest Nomex material is a highly flame retardant fabric.

Stock Number

Model 15

Protection Type

Personal cooling

Equipment Category

Ice pack vest is a lightweight, low-profile static cooling garment. It is fully insulated self-contained garment that uses frozen gel packs to help prevent heat stress, keeping workers cool in high ambient temperatures. Can be used in explosive Class I and Class II environments.

Availability

Commercially available. In production since 1990.

Current User(s)

EAI Inc.
1308 Continental Drive, Ste. J
Abingdon, MD 21009

Manufacturer

ILC Dover, Inc.
One Moonwalker Rd.
Frederica, DE 19946-2080
POC: Rhonda Haller
800-931-9567 (Tel)

Manufacturer Type

Domestic

Developer

ILC Dover, Inc.

Source

ILC Dover, Inc.
Haller@ilcdover.com

Certification

Not applicable

Operational Parameters

Chemical Warfare (CW)

None

Agents Protected Against

Biological Warfare (BW)

None

Agents Protected Against

Toxic Industrial (TIMs)

None

Protected Against

Duration of Protection

4 h to 6 h

Recommended Use(s)

Suggested applications: Under protective clothing, nuclear plants, agricultural workers, gas utilities, medical malades, and sports mascots.

WORKING DRAFT

Physical Parameters

Sizes Available	1 size fits all
Weight	8 lb
Package Size and Volume	21 in x 12 in x 12 in
Power Requirements	Not applicable
Material Type	Permeable, flame retardant cotton or Nomex. Cool Vest Nomex material is a highly flame retardant fabric. Extremely durable.
Construction Type	Sewn seams
Color	Light blue

Logistical Parameters

Ease of Use	Wearing: The Ice Pack Vest is secured in the front via velcro straps. Six strips of frozen gel packs are inserted into the 6 horizontal pockets (3 front, 3 back) in the vest. Velcro seam on the left shoulder makes it easy to put on.
Consumables	None
Maintenance Requirements	None
Shelf Life	>10 yr
Transportability	Transportable via air, ground, or sea
Operational Limitations	Not applicable
Environmental Conditions	Not specified
Unit Cost	\$209
Maintenance Cost	\$0
Warranty	90 d on defects in materials and workmanship
Don/Doff Information	Features: Self-contained, durable, insulated vest, low profile, weighs 5 lb to 8 lb fully loaded, takes seconds to put-on/remove, split shoulder design.
Use/Reuse	Unlimited reuse
Launderability	Machine launderable with mild soap. Air dry.
Accessories	Replacement gel strips (5 oz or 9 oz)

Special Requirements

Training Requirements	None
Training Available	None required
Manuals Available	User's manual included with each unit
Surveillance Testing Requirements	None required
Support Equipment	Freezer
Testing Information	Available upon request
Applicable Regulations	Not applicable
Health Hazards	None
Communications Interface Capability	Not specified
EOD Compatibility	Not specified

WORKING DRAFT

General

Name

ILC Model 19 Cool Vest

Item # 72



Technology

Through the use of a centrifugal pump, chilled water is circulated throughout the series of passages within the vest. All mechanical components are packaged within the vest to provide an effective, compact system.

Stock Number

Model 19

Protection Type

Personal cooling

Equipment Category

The ILC Model 19 Cool Vest is a completely portable cooling garment worn to aid in maintaining worker comfort and safety in extremely warm environments for extended periods of time. External bypass valve control water temperature for continuous water circulation.

Availability

Commercially available. In production since 1990.

Current User(s)

EAI Inc.
1308 Continental Drive, Ste. J
Abingdon, MD 21009

Manufacturer

ILC Dover, Inc.
One Moonwalker Rd.
Frederica, DE 19946-2080
POC: Rhonda Haller
800-931-9567 (Tel)

Manufacturer Type

Domestic

Developer

ILC Dover, Inc.

Source

ILC Dover, Inc.
Haller@ilcdover.com

Certification

Not applicable

Operational Parameters

Chemical Warfare (CW)

None

Agents Protected Against

Biological Warfare (BW)

None

Agents Protected Against

Toxic Industrial (TIMs)

None

Protected Against

Duration of Protection

The cooling bag stores water, cubed or crushed ice, or reusable ice packs giving an average of 1 h of cooling during normal work cycles. An 8 V rechargeable battery gives up to 3 h of continuous operation. Battery charger and additional battery packs are available.

Recommended Use(s)

Foundries, forgeries, and theme park characters

WORKING DRAFT

Physical Parameters

Sizes Available	1 size fits all
Weight	Weighs 10 lb fully loaded
Package Size and Volume	Not specified
Power Requirements	8 V rechargeable battery gives up to 3 h of continuous operation. Battery charger and additional battery packs are available.
Material Type	Blue urethane coated nylon shell
Construction Type	Sewn seams
Color	Light blue

Logistical Parameters

Ease of Use	The pocket housing the pump, ice bag, and battery pack can be worn on the back or front, enabling the user to wear it alone, with a breathing system, or under a protective clothing ensemble
Consumables	8 V rechargeable battery
Maintenance Requirements	None
Shelf Life	>10 yr
Transportability	Transportable via air, ground, or sea
Operational Limitations	The ILC Model 19 Cool Vest is a completely portable cooling garment worn to aid in maintaining worker comfort and safety in extremely warm environments for extended periods of time
Environmental Conditions	Not specified
Unit Cost	\$284
Maintenance Cost	\$0
Warranty	90 d on defects in materials and workmanship
Don/Doff Information	The pocket housing the pump, ice bag, and battery pack can be worn on the back or front, enabling the user to wear it alone, with a breathing system, or under a protective clothing ensemble
Use/Reuse	Unlimited reuse
Launderability	Mechanical components can be removed, allowing the vest to be machine laundered
Accessories	Battery charger, reusable ice pack, and battery

Special Requirements

Training Requirements	None
Training Available	None required
Manuals Available	User's manual included with each unit
Surveillance Testing Requirements	None required
Support Equipment	Freezer
Testing Information	Available upon request
Applicable Regulations	Not applicable
Health Hazards	None
Communications Interface Capability	Not specified
EOD Compatibility	Not specified

WORKING DRAFT

General

Name

Personal Ice Cooling System (PICS)

Item # 73



Technology

Liquid cooling shirt is cotton/polyester blend with PVC tubing. Shirt is permeable however it is not designed to be a primary protective layer.

Stock Number

PICS: 8415-01-455-3175
PICS Shirt (SM): 8415-01-465-3766
PICS Shirt (M): 8415-01-465-3767
PICS Shirt (L): 8415-01-465-0121
PICS Shirt (XL): 8415-01-465-0120

Protection Type

Heat stress management

Equipment Category

Cooling system

Availability

Fielding in process (December 1999 through July 2002). Army EOD units, technical escort units and chemical storage sites will be fielded equipment.

Current User(s)

EOD units, Technical Escort Units, and chemical activities

Manufacturer

GEOMET Technologies, Inc.
20251 Century Blvd.
Germantown, MD 20874
301-428-9898 (Tel)
POC: Jef Harris

Manufacturer Type

Domestic

Developer

GEOMET Technologies, Inc., Germantown, MD, and Natick Research Development and Engineering Center (NRDEC), Kansas Street, Natick, MA

Source

GEOMET Technologies, Inc.

Certification

Type Classified by the U.S. Army, 1997

Operational Parameters

Chemical Warfare (CW)

Agents Protected Against

The PICS is designed to be worn with chemical protective clothing such as the STEPO and ITAP chemical protective suits. External components of the PICS have been tested to protect against GB and HD.

Biological Warfare (BW)

Agents Protected Against

No testing was conducted against BW agents. However, the PICS was designed to operate in a CW environment, therefore it is a safe assumption that the PICS (when worn with appropriate protective clothing such as the STEPO or ITAP chemical protective suits.

Toxic Industrial (TIMs)

Protected Against

None tested

Duration of Protection

4 h mission duration

WORKING DRAFT

Recommended Use(s)

For use in chemical environments with encapsulating suits and other protective clothing where heat stress is a concern

Physical Parameters

Sizes Available

Liquid cooling shirts available in 4 sizes: S, M, L, and XL

Weight

13 lb (mission ready)

Package Size and Volume

12 in x 12 in x 18 in

Power Requirements

3 D cell batteries. 4 h to 6 h operation between battery change-out. Ice bottles must be frozen solid prior to use for optimal cooling.

Material Type

Liquid cooling shirt is cotton/polyester blend with PVC tubing. Shirt is permeable however it is not designed to be a primary protective layer. The PICS should be worn with protective clothing when contact with hazardous chemicals or CW agents is expected.

Construction Type

Not applicable

Color

OD green pump and white ice bag (external components)

Logistical Parameters

Ease of Use

Compatible with STEPO and ITAP chemical protective suits. Simple to use and maintain.

Consumables

3 D cell batteries. Water must be frozen in the system ice bottles before use. Water is also circulated through the PICS during operation. The water can be reused, however, it must be refrozen in the ice bottles.

Maintenance Requirements

Laundering of liquid cooling shirt, freezing of ice bottles, visual inspection, and leak test

Shelf Life

None determined. Manufacturer recommends inspecting rubber parts closely after 5 yr.

Transportability

Soft carry bag. Also ice bag tote bag available to transport ice refills at work site.

Operational Limitations

The PICS is used in elevated temperatures to manage heat stress and reduce the increase of the user's core temperature. There is no operating temperature range specified for PICS. Moderately durable.

Environmental Conditions

None

Unit Cost

PICS: 1 to 100, \$2.2K; 101 to 250, \$2.1K; 251 to 500, and \$2K
PICS Service Kit: \$207
Ice Bag Tote Bag: \$56

Maintenance Cost

1 man h/use and 4 man h/yr for quarterly inspections (based on information in TM 10-8415-232-23&P Maintenance Allocation Chart)

Warranty

1 yr with the exception of liquid cooling shirt. Liquid cooling shirt is warranted for 3 mo.

Don/Doff Information

Requires one assistant when donning/doffing with chemical protective clothing

Use/Reuse

Reusable

Launderability

Decon in accordance with DA PAM 385-61 and AR 385-61. Do not use DS2 or sodium hydroxide for decontamination. Ice bag, ice bottle and external coolant tether must be decontaminated for disposal if exposed to CW agent vapor or liquid contamination. Pump unit may be decontaminated if exposed to CW agent vapor contamination. If pump unit is exposed to CW agent liquid contamination pump must be decontaminated for disposal. Launder shirt using nonphosphate soap, warm water, and air dry.

WORKING DRAFT

Accessories

3 ice bottles, 3 ice bags ,and 3 coupling caps

Special Requirements

Training Requirements

Minimum of 4 hr for operation. Additional 8 h for maintenance.

Training Available

Yes

Manuals Available

Technical manual TM 10-8415-232-23&P developed under Government contract to support operation and maintenance

Surveillance Testing Requirements

Visual inspection, vacuum test, and operational checks IAW TM 3-4240-351-23&P. All materials to conduct tests are included in PICS Service Kit.

Support Equipment

Liquid coolant passthrough is required when used with encapsulating suits such as the STEPO and ITAP chemical protective suits

Testing Information

CW agent data available from NRDEC. (Refer to coolant pass through in component testing information for PICS data).

Applicable Regulations

Safety precautions are identified in TM 10-8415-232-23&P

Health Hazards

None

Communications Interface Capability

Not applicable

EOD Compatibility

Yes. Specifically designed for use with STEPO and ITAP systems. Also compatible with other protective clothing.

WORKING DRAFT

General

Name

Flexi ICE Cold Vest

Item # 74



Technology

Flexi ICE Cold Vest is a cooling system incorporating four cooling elements inserted within a lightweight vest. It is worn under the tunic and over the underwear. An outer Nomex fabric and an inner cotton fabric make it both comfortable and resistant to heat and flames.

Stock Number

Big Flexi Ice package 98 075-01 includes: 8 Flexi Ice Cold Vests, 1 freezer box, and 2 cool bags. Small Flexi Ice package 98 076-01 includes: 4 Flexi Ice Cold Vest and 1 cool bag.

Protection Type

Heat stress management

Equipment Category

Cooling system

Availability

Fielding in process (December 1999 through July 2002). Army EOD units, technical escort units and chemical storage sites will be fielded equipment.

Current User(s)

Swedish Rescue Service Agency (SRSA)

Manufacturer

INTERSPIRO INC.
31 Business Park Drive
Branford, CT 06405
800-468-7788 or 203-481-3899 (Tel)
203-483-1879 (Fax)

Manufacturer Type

International

Developer

Interspiro

Source

www.interspiro.com

Certification

Not specified

Operational Parameters

Chemical Warfare (CW)

Not specified

Agents Protected Against

Biological Warfare (BW)

Not specified

Agents Protected Against

Toxic Industrial (TIMs)

None tested.

Protected Against

Duration of Protection

Action time 30 min to 2 h. Deep freezing from 60 s with freezer box.

Recommended Use(s)

When working in extreme conditions

WORKING DRAFT

Physical Parameters

Sizes Available	S and L
Weight	Lightweight—less than 2.2 lb
Package Size and Volume	Not specified
Power Requirements	Not specified
Material Type	An outer Nomex fabric and an inner cotton fabric make it both comfortable and resistant to heat and flames
Construction Type	Not applicable
Color	Blue

Logistical Parameters

Ease of Use	The cooling elements can be quickly frozen within our specially developed freezer box. With the freezer box connected to a standard CO ₂ fire extinguisher, the cooling elements freeze within approximately 60 s, giving up to 1 h of use. It is of course also possible to freeze the cooling elements in a standard deep freeze.
Consumables	Standard CO ₂ fire extinguisher
Maintenance Requirements	Not specified
Shelf Life	Not specified
Transportability	For transportation and storage, for up to 12 h, the system includes a Cool Bag. The Cool Bag is designed for four Flexi Ice Cold Vests.
Operational Limitations	Fire fighters pulse rates decreased and body temperature and perspiration reduced
Environmental Conditions	None
Unit Cost	Not specified
Maintenance Cost	Not specified
Warranty	Not specified
Don/Doff Information	Not specified
Use/Reuse	Quick to recharge and reuse. With the freezer box connected to a standard CO ₂ fire extinguisher, the cooling elements freeze within approximately 60 s, giving up to 1 h of use.
Laundryability	The vest is washable—even with the cooling elements inserted
Accessories	Cool bag, freezer box, and cool bags

Special Requirements

Training Requirements	Not specified
Training Available	Yes
Manuals Available	Not specified
Surveillance Testing Requirements	Not specified
Support Equipment	Standard freezer
Testing Information	Vigorous tests conducted by the Swedish National Institute of Working Life, at the request of the Swedish Rescue Service Agency (SRSA)
Applicable Regulations	Not specified
Health Hazards	None
Communications Interface	Not applicable
Capability	
EOD Compatibility	Not specified, but can be used with fire fighting equipment